

## REMARKS/ARGUMENTS

### Amendments

5           The claims have been amended in the interest of speedy prosecution, and without prejudice to Applicant's right to prosecute broader or different claims in one or more continuing applications.

10           The numbering of the claims has been corrected, generally in the way set out in the first paragraph on page 2 of the Office Action, but not canceling claim 31 (now renumbered claim 32) -- the Office Action is not correct in stating that the two previously-presented claims 31 recite the same feature (the first claim 31 required a temperature less than 18°C, and the second claim 31 required a temperature less than 16°C). The second claim 31 (now renumbered claim 32) recites a further restriction of  
15           claim 19, on which it is dependent. The undersigned apologizes for the incorrect numbering of the claims previously.

          The scope of claim 19 has been expanded

20           (a)     by removing the requirement that the sealed container should be a *shipping or trucking* container -- basis on page 7, line 28 – page 8, line 8, page 19, lines 12-16, page 29, lines 2-3, and the Abstract, which make it clear that the reference to shipping and trucking containers is merely by way of example, and that the invention is useful in conjunction with any large container, including a ripening room or the hold of a suitably equipped ship --  
25           (b)     by removing the requirement that the packaging atmosphere is at a temperature less than 18°C – basis on page 28, lines 1-9 – and  
          (c)     by removing the requirement that the quantity of bananas in each bag is 16-22 kg – basis on page 30, lines 13-18, which makes it clear that this is a preferred, not essential, feature of the invention.

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          The scope of claim 19 has been restricted

(d) by specifying that the container has a volume of at least 8 m<sup>3</sup> -- basis on page 19, lines 12-18 -- and

(e) by specifying that the sealed container contains a controlled atmosphere in which the oxygen content is less than in air, i.e. less than about 21% -- basis on page 5, lines 15-20, and page 29, lines 3-5 .

Claim 21 has been amended by way of restriction to require that the polymeric bag is a polyethylene bag-- basis for this restriction is in the Examples, all of which use polyethylene bags.

Each of claims 19 and 21 has been amended, by way of clarification, to specify that the packaging atmosphere around the bananas is an equilibrium atmosphere comprising oxygen, carbon dioxide and exogenous ethylene or the residue of exogenous ethylene, the oxygen content having a substantially constant value which is 1.5 to 6%, the carbon dioxide content having a substantially constant value which is less than 15% and the total quantity of oxygen and carbon dioxide being less than 16%.

Each of claims 19 and 21 has been amended (i) to remove the requirement that the atmosphere control member comprises a microporous polymeric film and a polymeric coating on the microporous film (page 21, lines 6-9, making it clear that this is a preferred, not essential, feature of the atmosphere control member).

Claim 21 has been amended by way of restriction to require that the atmosphere control member provides at least 50% of the O<sub>2</sub> permeability of the sealed container (basis on page 21, lines 13-14).

Claims 37 and 38, which are dependent on the independent package claim 21, have been corrected by replacing "shipping or trucking container" by -- package--.

New claims 39-40, dependent on claim 19, are directed to features which were previously essential features of claim 19. New claim 40 requires that the controlled

atmosphere surrounding the sealed bags should contain less than about 12% oxygen (basis is on page 29, lines 4-5). New claims 42 and 46, dependent on claims 19 and 21 respectively, require that the atmosphere control member (i) comprises a microporous polymeric film and a polymeric coating on the microporous film and (ii) provides at least 75% of the permeability of the sealed bag (basis is on page 21, lines 6-14 of the specification as filed). New claim 43, dependent on claim 19, specifies that each of the polymeric bags is a polyethylene bag. New claims 44 and 45 require that the polymeric bag contains 16-22 kg of the bananas (basis in claim 9).

## 10    **The Rejections under 35 USC 112**

Applicant respectfully traverses the rejection of claims 19, 21, 23, 24, 29, 30, 32 and 30 5-38 under 35 USC 112, insofar as they applicable to the amended claims, for the reasons set out below. The Office Action rejects the claims "as being non-enabling and indefinite". However, the detailed rejection is directed only to criticism of the claims as indefinite. As noted in MPEP 707.07(d)

*If the claim is rejected as broader than the enabling disclosure, the reason for so holding should be given...*

Applicant submits that the rejection on the ground that the claims are non-enabling must be withdrawn in the absence of any reason for the rejection.

With regards to the rejection on the grounds of indefiniteness, it is submitted that the rejection should be withdrawn in view of the facts and arguments set out below.

(1)    The claims refer to the oxygen permeability and the ethylene permeability of "the sealed container". The permeabilities in question are for the entire container, including the atmosphere control member. It is believed that the wording of the claims is clear. The Examiner may wish to refer also to page 44, lines 17-21, and Table 9 on page 45 of the specification, where the permeability of the bag, the permeability of the atmosphere control member, and the permeability of the rest of the bag are listed separately (with the permeability of the bag being the sum of the permeability of the atmosphere control member and

the permeability of the rest of the bag), and the permeability of the bag at 13°C/kg of bananas is obtained by dividing the permeability of the bag by the number of kilograms of green bananas (20 kg on page 33, line 10).

(2) The amended claims refer to the packaging atmosphere within the sealed packages as being

*an equilibrium atmosphere in which the O<sub>2</sub> content has a substantially constant value which is from 1.5 to 6%, the CO<sub>2</sub> content has a substantially constant value which is less than 15%, and the total quantity of O<sub>2</sub> and CO<sub>2</sub> has a substantially constant value which is less than 16%.*

It is believed that one of ordinary skill in the art will have no difficulty in understanding the quoted passage. The bananas are within a sealed bag. Therefore, when the atmosphere is at equilibrium, the rate at which the bananas are consuming oxygen from the packaging atmosphere is the same as the rate at which oxygen enters the packaging atmosphere through the sealed bag, and the rate at which the bananas produce carbon dioxide is the same as the rate at which carbon dioxide leaves the packaging atmosphere through the sealed bag. Thus, the claims exclude, for example, a bag in which the packaging atmosphere is passing through the claimed oxygen and carbon dioxide ranges as the packaging atmosphere transitions from an initial atmosphere which is air (immediately after the container has been sealed) to an equilibrium atmosphere having a different oxygen and/or carbon dioxide concentration. During that transition, the rate at which oxygen is consumed by the bananas is different from the rate at which oxygen enters the sealed container and/or the rate at which carbon dioxide is produced is different from the rate at which carbon dioxide leaves the packaging atmosphere (i.e. there is no equilibrium).

As evidence that those skilled in the art understand what is meant by an equilibrium atmosphere, the Examiner is referred to the documents of record. For example, Badran' 542, on page 4, line 10, describes the measures needed "in order that a bag reaches a proper equilibria of controlled atmosphere..." ; Anderson states in column 9. lines 24-26, that "the atmosphere reached a

steady-state at about 5% oxygen and about 15% carbon dioxide"; Antoon '331, in column 5, lines 21-39, describes in some detail the process by which the packaging atmosphere transitions "to the point where the consumption of oxygen is equal to the replacement of oxygen in the container" at which point "steady state is reached"; and the Produce Marketing reference, in the paragraph bridging the first and second columns on page 27, likewise discusses the process by which a steady-state is reached.

The Office Action itself states on page 5 (emphasis added)

*In any case, the art taken as a whole teaches one to manipulate the known variables to provide a low oxygen, high carbon dioxide atmosphere that will be **steady state** because the art taken as a whole, which effectively includes all of the references which disclosed low oxygen and high carbon dioxide concentrations, intend those concentrations to be maintained during storage.*

(3) With regard to the Examiner's questions about the "residue of exogenous ethylene", page 6, lines 1-5, of the specification makes it clear that ethylene is a specific example of an ethylenic ripening agent, which is abbreviated to ERA, and page 20, lines 2-6, of the specification defines the term "residue of exogenous ERA" as

*a chemical compound which results from the reaction of exogenous ERA with the fruit being ripened (in which case it is optionally a part of the ripe fruit) or with another substance within the sealed package.*

The significance of the recitation of this feature in the claim is that the claim

- (A) includes (i) packages which contain exogenous ethylene, and optionally a residue of exogenous ethylene, and also (ii) packages which at one time contained exogenous ethylene, all of which exogenous ethylene has been consumed in the ripening of the bananas, leaving behind a residue of exogenous ethylene;
- (B) but excludes packages in which the bananas have not been exposed to exogenous ethylene.

## The Rejection under 35 U.S.C. 103

Applicants respectfully traverse the rejection of claims 19, 21, 23, 24, 29, 30, 32  
5 and 35-38 under 35 U.S.C. 103 as unpatentable over U.S. Patent No. 3,798,333  
(hereinafter "Cummin") in view of U.S. Patent No. 5,658,607 (hereinafter "Herdeman"),  
U.S. Patent No. 3,450,542 (hereinafter "Badran 542"), EP 752378 (hereinafter  
"Scolaro"), U.S. Patent No. 3,450,544 (hereinafter "Badran 544"), U.S. Patent No.  
6,013,293 (hereinafter "De Moor"), U.S. Patent No. 4,842,875 (hereinafter "Anderson"),  
10 U.S. Patent No. 5,045,331 (hereinafter "Antoon 331"), JP 57-94244 (hereinafter  
Shimizu), and Applicant's admission of the prior art, further in view of Modern  
Packaging 40, #2, 1966 (hereinafter "Modern Packaging"), International Conference on  
Controlled Atmosphere Packaging 10/84 (hereinafter "CA Packaging"), Revue Generale  
du Froid (hereinafter "RGF "), Produce Marketing Almanac 1987 (hereinafter "Produce  
15 Marketing"), Food Technology 9/1988 ("hereinafter Food Technology") and CSIRO  
Food RES Q, 44, 2, 25-33, 1984 (hereinafter "CSIRO"), insofar as the rejection can be  
understood and insofar as it is applicable to the amended claims.

One of the secondary references relied upon by the Examiner is "Applicant's  
20 admission of the prior art". Examiner correctly notes that page 2 of the specification  
lists numerous prior art references. The Examiner is of course free to rely upon any  
identified prior art, including the references specifically listed on page 2 of the  
specification. The Examiner has in fact explicitly identified and relied on some, but not  
all, of the references specifically listed on page 2 of the specification. But the rejection  
25 does not rely only on the explicitly identified references, but also on "Applicant's  
admission of the prior art". In addition, the passage bridging pages 4 and 5 of the Office  
Action indicates that the Examiner intends to include not only the identified references,  
but also any of the "host of references on page 2, which describe well-known teachings  
in the art...", i.e. including the references listed on page 2 but **not** otherwise identified in  
30 the statement of the rejection. Applicant submits that it is not permissible for the  
rejection to rely upon prior art which is not specifically identified. In the absence of such

identification, the ground of rejection is not "fully and clearly stated", as required by MPEP 707.07(d). As a result, it is not possible to carry out, either with regard to the alleged admission on its own or in combination with the other references, the actions required by MPEP 2141, e.g. the so-called Graham inquiries, in order to determine whether the conditions set out in 35 USC 103 have been met. The rejection under 35 USC 103 should be withdrawn for that reason alone.

If the Examiner maintains any rejection which relies on an alleged admission by the Applicant, in addition to the specifically identified references, he is asked to identify precisely the additional documents or facts relied upon, so that further prosecution, by way of appeal or otherwise, can be conducted on a properly defined basis.

## General

The Office Action states, at the top of page 8,

*The rejection is based on what the art taken as a whole teaches, and what the art taken as a whole teaches is that the storage life of any produce is a direct function of all the variables known by the art and in fact manipulated by the art as well as by applicants. The breakdown of how each reference is purported to differ from claims 19 and 21 really misses the point to the rejection, and as such is basically irrelevant.*

While the Examiner may consider his approach to be a reasonable one, it is directly contrary to the directions in MPEP 2141. MPEP 2141 states that **"the question of obviousness must be resolved on the basis of"** the factual determinations required by the Supreme Court in *Graham v. John Deere* (the so-called "Graham factors"), namely

- (A) determining the scope and content of the prior art,
- (B) ascertaining the differences between the claimed invention and the prior art, and
- (C) resolving the level of ordinary skill in the pertinent art,

and that the Graham factors "**are the controlling inquiries in any obviousness analysis**".

Applicant does not understand how the Examiner can assert, in view of MPEP  
5 2141, that

*The breakdown of how each reference is purported to differ from claims 19 and  
21 really misses the point to the rejection, and as such is basically irrelevant.*

On the contrary, such a breakdown is positively mandated by MPEP 2141, and the  
Examiner's disregard for explicit directions of MPEP 2141 is in itself a sufficient basis for  
10 requiring a withdrawal of the rejections.

### **Patentability of the Amended Claims**

#### **Claim 19**

As noted above, claim 19 has been restricted to require that the sealed packages  
are in a large sealed container, and that the large sealed container contains, in addition  
to the sealed packages, a controlled atmosphere which surrounds the sealed packages  
and in which the oxygen content is less than in air (i.e. less than about 21%). New  
20 dependent claim 41 further limits the oxygen content of the controlled atmosphere to  
less than 12%. Thus, claim 19 uses a combination of the techniques of modified  
atmosphere packaging (MAP) and controlled atmosphere packaging (CAP), as for  
example broadly disclosed on page 5, lines 15-30. Such combination of MAP and CAP  
is nowhere disclosed or suggested in the primary reference, Cummin, or in any of the  
25 other references. Additional reasons for the patentability of claim 19 are given below.

#### **Claim 21**

As noted above, claim 21 has been limited to a sealed **polyethylene** bag which  
30 includes an atmosphere control member which provides at least 50% of the oxygen  
permeability of the bag. Cummin uses a wrapping film which has



*a permeability to oxygen of at least 1000 ml. /100 in.<sup>2</sup> 24hr atm at 23°C and a permeability to carbon dioxide of at least 3000.....*

(column 2, lines 13-25, and 58-67).

5 Cummin does not disclose the use of a polyethylene wrapping film, still less the use of a polyethylene bag. There is a good reason for this, namely that a polyethylene film having oxygen permeability as required by Cummin would be less than about 0.5 mil thick and would, therefore, be wholly impractical. In this connection, the Examiner is referred to the discussion on page 16 of the Reply filed September 14, 2006, including the publication by Exxon Mobil Chemical, which is of record. Additional reasons for the  
10 patentability of claim 21 are given below.

Other important differences between the claims and references are set out below and in the Reply mailed September 14, 2006, which is incorporated herein by reference and to which the Examiner's attention is directed.

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#### **Cummin**

There are at least the following differences between claims 19 and 21 and Cummin.

- 20 (1) Cummin does not disclose a container which has a volume of at least 8 m<sup>3</sup> and which contains a plurality of sealed packages surrounded by a controlled atmosphere in which the content of oxygen is less than in air, (claim 19).
- (2) Cummin does not disclose a sealed package which includes an atmosphere control member which provides at least 50% of the oxygen  
25 permeability of the sealed bag (claim 21).
- (3) Cummin does not disclose a sealed polymeric package containing bananas and having an oxygen permeability at 13°C per kg of bananas (OP13/kg) of at least 1500 ml/atm.24hr and an ethylene permeability of 13°C per kg of bananas (EtP/kg) which is at least 3 times OP13/kg (claims 19 and 21). In  
30 this connection, the Examiner's attention is drawn to pages
- (4) Cummin does not disclose a polymeric bag (claims 19 and 21).

(5) Cummin does not disclose an equilibrium packaging atmosphere which comprises 1.5 to 6% oxygen, less than 15% carbon dioxide, the total quantity of oxygen and carbon dioxide being less than 16%, and exogenous ethylene or the residue of exogenous ethylene (claims 19 and 21).

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#### **Herdeman**

There are at least the following differences between Herdeman and claims 19 and 21

- 10 (1) Herdeman does not disclose a container which has a volume of at least 8 m<sup>3</sup> and which contains a plurality of sealed packages surrounded by a controlled atmosphere in which the content of oxygen is less than in air (claim 19).
- (2) Herdeman does not disclose a sealed polyethylene bag which includes an atmosphere control member which provides at least 50% of the oxygen
- 15 permeability of the bag (claim 21).
- (3) Herdeman does not disclose a sealed polymeric bag having an oxygen permeability at 13°C per kg of bananas (OP13/kg) of at least 1500 ml/atm.24hr and an ethylene permeability of 13°C per kg of bananas (EtP/kg) which is at least 3 times OP13/kg (claims 19 and 21).
- 20 (4) Herdeman does not disclose a polymeric bag (claims 19 and 21).

#### **Badran 542**

The Examiner is reminded that the oxygen permeabilities stated in Badran 542

25 are incorrect (see pages 16-17 of the Reply filed September 14, 2006).

There are at least the following differences between Badran 542 and claims 19 and 21

- 30 (1) Badran 542 does not disclose a container which has a volume of at least 8 m<sup>3</sup> and which contains a plurality of sealed packages surrounded by a controlled atmosphere in which the content of oxygen is less than in air (claim 19).

(2) Badran 542 does not disclose a sealed polyethylene bag which includes an atmosphere control member which provides at least 50% of the oxygen permeability of the bag (claim 21).

(3) Badran 542 does not disclose a sealed polymeric bag containing bananas and having an oxygen permeability at 13°C per kg of bananas (OP13/kg) of at least 1500 ml/atm.24hr and an ethylene permeability of 13°C per kg of bananas (EtP/kg) which is at least 3 times OP13/kg (claims 19 and 21).

#### **Scolaro**

There are at least the following differences between Scolaro and claims 19 and

(1) Scolaro does not disclose a container which has a volume of at least 8 m<sup>3</sup> and which contains a plurality of sealed packages surrounded by a controlled atmosphere in which the content of oxygen is less than in air (claim 19).

(2) Scolaro does not disclose a sealed polyethylene bag which includes an atmosphere control member which provides at least 50% of the oxygen permeability of the bag (claim 21).

(3) Scolaro does not disclose a sealed polymeric bag containing bananas and having an oxygen permeability at 13°C per kg of bananas (OP13/kg) of at least 1500 ml/atm.24hr and an ethylene permeability of 13°C per kg of bananas (EtP/kg) which is at least 3 times OP13/kg (claims 19 and 21).

(4) Scolaro does not disclose sealed packages which contain 16-22 kg of bananas (claim 19).

#### **Badran 544**

The Examiner is reminded that the oxygen permeabilities stated in Badran 544 are incorrect (see pages 20-21 of the Reply filed September 14, 2006).

There are at least the following differences between Badran 544 and claims 19 and 21

(1) Badran 544 does not disclose a container which has a volume of at least 8 m<sup>3</sup> and which contains a plurality of sealed packages surrounded by a controlled atmosphere in which the content of oxygen is less than in air (claim 19).

(2) Badran 544 does not disclose a sealed polyethylene bag which includes an atmosphere control member which provides at least 50% of the oxygen permeability of the bag (claim 21).

(3) Badran 544 does not disclose a sealed polymeric bag containing bananas and having an oxygen permeability at 13°C per kg of bananas (OP13/kg) of at least 1500 ml/atm.24hr and an ethylene permeability of 13°C per kg of bananas (EtP/kg) which is at least 3 times OP13/kg (claims 19 and 21).

(4) Badran 544 does not disclose sealed packages which contain 16-22 kg of bananas (claim 19 only).

(5) Badran 544 does not disclose a sealed container in which the atmosphere contains exogenous ethylene or the residue of exogenous ethylene.

#### **De Moor**

There are at least the following differences between De Moor and claims 19 and 21.

(1) De Moor does not disclose any package containing bananas (claims 19 and 21)

(2) De Moor does not disclose a container which has a volume of at least 8 m<sup>3</sup> and which contains a plurality of sealed packages surrounded by a controlled atmosphere in which the content of oxygen is less than in air (claim 19).

(3) De Moor does not disclose a sealed polymeric bag containing bananas and having an oxygen permeability at 13°C per kg of bananas (OP13/kg) of at least 1500 ml/atm.24hr and an ethylene permeability of 13°C per kg of bananas (EtP/kg) which is at least 3 times OP13/kg (claims 19 and 21).

- (4) De Moor does not disclose a sealed bag in which the atmosphere contains exogenous ethylene or the residue of exogenous ethylene.

**Anderson.**

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There are at least the following differences between Anderson and claims 19 and 21

- (1) Anderson does not disclose a container which has a volume of at least 8 m<sup>3</sup> and which contains a plurality of sealed packages surrounded by a controlled atmosphere in which the content of oxygen is less than in air (claim 19).
- (2) Anderson does not disclose a packaging atmosphere which contains exogenous ethylene or the residue of exogenous ethylene (claims 19 and 21).
- (3) Anderson does not disclose a sealed polymeric bag having an oxygen permeability at 13°C per kg of bananas (OP13/kg) of at least 1500 ml/atm.24hr and an ethylene permeability of 13°C per kg of bananas (EtP/kg) which is at least 3 times OP13/kg (claims 19 and 21).
- (4) Anderson does not disclose sealed packages which contain 16-22 kg of bananas (claim 19).

20 **Antoon 331**

There are at least the following differences between Antoon and claims 19 and 21

- (1) Antoon does not disclose a container which has a volume of at least 8 m<sup>3</sup> and which contains a plurality of sealed packages surrounded by a controlled atmosphere in which the content of oxygen is less than in air (claim 19).
- (2) Antoon does not disclose a packaging atmosphere which contains exogenous ethylene or the residue of exogenous ethylene (claims 19 and 21).
- (3) Antoon does not disclose a sealed polymeric bag containing bananas and having an oxygen permeability at 13°C per kg of bananas (OP13/kg) of at least

1500 ml/atm.24hr and an ethylene permeability of 13°C per kg of bananas (EtP/kg) which is at least 3 times OP13/kg (claims 19 and 21).

(4) Antoon does not disclose sealed packages which contain 16-22 kg of bananas (claim 19).

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## Shimizu

There are at least the following differences between Shimizu and claims 19 and 21

10 (1) Shimizu does not disclose a container which has a volume of at least 8 m<sup>3</sup> and which contains a plurality of sealed packages surrounded by a controlled atmosphere in which the content of oxygen is less than in air (claim 19).

(2) Shimizu does not disclose a packaging atmosphere which contains exogenous ethylene or the residue of exogenous ethylene (claims 19 and 21).

15 (3) Shimizu does not disclose a sealed polymeric bag containing bananas and having an oxygen permeability at 13°C per kg of bananas (OP13/kg) of at least 1500 ml/atm.24hr and an ethylene permeability of 13°C per kg of bananas (EtP/kg) which is at least 3 times OP13/kg (claims 19 and 21).

20 (4) Shimizu does not disclose sealed packages which contain 16-22 kg of bananas (claim 19).

(5) Shimizu does not disclose a sealed bag which includes an atmosphere control member which provides at least 50% of the oxygen permeability of the bag (claim 21).

## 25 Produce Marketing

This new reference provides a general summary of MAP and CAP, but it should be noted that it uses these two terms in the opposite sense from the Applicant and the of the references (i.e.. Produce Marketing's MAP is everybody else's CAP).

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There are at least the following differences between Produce Marketing and claims 19 and 21

(1) Produce Marketing does not disclose a container which has a volume of at least 8 m<sup>3</sup> and which contains a plurality of sealed packages surrounded by a controlled atmosphere in which the content of oxygen is less than in air (claim 19).

(2) Produce Marketing does not disclose a packaging atmosphere which contains exogenous ethylene or the residue of exogenous ethylene (claims 19 and 21).

(3) Produce Marketing does not disclose a sealed polymeric bag containing bananas and having an oxygen permeability at 13°C per kg of bananas (OP13/kg) of at least 1500 ml/atm.24hr and an ethylene permeability of 13°C per kg of bananas (EtP/kg) which is at least 3 times OP13/kg (claims 19 and 21).

(4) Produce Marketing does not disclose sealed packages which contain 16-22 kg of bananas (claim 19).

(5) Produce Marketing does not disclose a sealed bag which includes an atmosphere control member which provides at least 50% of the oxygen permeability of the bag (claim 21).

## 20 CA Packaging

This new reference contains a very general discussion of MAP.

There are at least the following differences between CA Packaging and claims 19 and 21

(1) CA Packaging does not disclose a container which has a volume of at least 8 m<sup>3</sup> and which contains a plurality of sealed packages surrounded by a controlled atmosphere in which the content of oxygen is less than in air (claim 19).

(2) CA Packaging does not disclose a packaging atmosphere which contains exogenous ethylene or the residue of exogenous ethylene (claims 19 and 21).

(3) CA Packaging does not disclose a sealed polymeric bag containing bananas and having an oxygen permeability at 13°C per kg of bananas (OP13/kg) of at least 1500 ml/atm.24hr and an ethylene permeability of 13°C per kg of bananas (EtP/kg) which is at least 3 times OP13/kg (claims 19 and 21).

(4) CA Packaging does not disclose sealed packages which contain 16-22 kg of bananas (claim 19).

(5) CA Packaging does not disclose a sealed bag which includes an atmosphere control member which provides at least 50% of the oxygen permeability of the bag (claim 21).

## RGF

A full translation of this new reference accompanies this Reply. This reference is an attempt "to present the essential theoretical aspects" of the storage of fruits and vegetables in controlled atmosphere using polymer membranes (title and page 236, lines 2-3)

There are at least the following differences between RGF and claims 19 and 21

(1) RGF does not disclose a container which has a volume of at least 8 m<sup>3</sup> and which contains a plurality of sealed packages surrounded by a controlled atmosphere in which the content of oxygen is less than in air (claim 19).

(2) CA Packaging does not disclose a packaging atmosphere which contains exogenous ethylene or the residue of exogenous ethylene (claims 19 and 21).

(3) CA Packaging does not disclose a sealed polymeric bag containing bananas and having an oxygen permeability at 13°C per kg of bananas (OP13/kg) of at least 1500 ml/atm.24hr and an ethylene permeability of 13°C per kg of bananas (EtP/kg) which is at least 3 times OP13/kg (claims 19 and 21).

(4) CA Packaging does not disclose sealed packages which contain 16-22 kg of bananas (claim 19).



## Food Technology

This new reference is another general review of MAP.

5            There are at least the following differences between Food Technology and claims  
19 and 21

(1)    Food Technology does not disclose a container which has a volume of at  
least 8 m<sup>3</sup> and which contains a plurality of sealed packages surrounded by a  
controlled atmosphere in which the content of oxygen is less than in air (claim  
10       19).

(2)    Food Technology does not disclose a packaging atmosphere which  
contains exogenous ethylene or the residue of exogenous ethylene (claims 19  
and 21).

(3)    Food Technology does not disclose a sealed polymeric bag containing  
15       bananas and having an oxygen permeability at 13°C per kg of bananas  
(OP13/kg) of at least 1500 ml/atm.24hr and an ethylene permeability of 13°C per  
kg of bananas (EtP/kg) which is at least 3 times OP13/kg (claims 19 and 21).

(4)    Food Technology does not disclose sealed packages which contain 16-22  
kg of bananas (claim 19).

20       (5)    Food Technology does not disclose a sealed bag which includes an  
atmosphere control member which provides at least 50% of the oxygen  
permeability of the bag (claim 21).

## CSIRO

25            This new reference is another general review of MAP and CAP and low pressure  
storage (LPS).

There are at least the following differences between CSIRO and claims 19 and

30    21

(1) CSIRO does not disclose a container which has a volume of at least 8 m<sup>3</sup> and which contains a plurality of sealed packages surrounded by a controlled atmosphere in which the content of oxygen is less than in air (claim 19).

(2) CSIRO does not disclose a packaging atmosphere which contains exogenous ethylene or the residue of exogenous ethylene (claims 19 and 21).

(3) CSIRO does not disclose a sealed polymeric bag containing bananas and having an oxygen permeability at 13°C per kg of bananas (OP13/kg) of at least 1500 ml/atm.24hr and an ethylene permeability of 13°C per kg of bananas (EtP/kg) which is at least 3 times OP13/kg (claims 19 and 21).

(4) CSIRO does not disclose sealed packages which contain 16-22 kg of bananas (claim 19).

(5) CSIRO does not disclose a sealed bag which includes an atmosphere control member which provides at least 50% of the oxygen permeability of the bag (claim 21).

### **The Combination of the References**

Having regard to the differences noted above between the claimed invention and the references, viewed individually, the burden is on the Examiner to demonstrate that the references, considered together, teach or suggest all the claim limitations, and do so with a reasonable expectation of success (MPEP 2143).

Applicant submits that, in view of the facts and arguments set out above, the Examiner has failed to establish a prima facie case for the rejection of the claims under 35 USC 103.

### **Patentability of claims dependent on claims 19 and 21**

It is clear that if claims 19 and 21 are patentable, as Applicant submits, so also are the claims dependent on them, which are of more restricted scope. However, for the sake of completeness, Applicant notes that a number of the claims add further

significant features. For example, claims 23 and 24 require that the bananas and the packaging atmosphere are the sole contents of the sealed polymeric bags. Thus,

(1) Shimizu requires that an adsorbent, e.g. a zeolite, on which ethylene is adsorbed, should be placed within the container before it is sealed around the bananas (or other vegetable or fruit).

(2) Cummin requires the use of a support tray within the sealed container, because the extremely thin films used by Cummin cannot practically be used in the form of preformed bags, and must be wrapped around the bananas while the bananas are supported by a support tray.

### **Request to Return Signed Information Disclosure Statements**

Applicant mailed Information Disclosure Statements on 4/26/2002, 5/20/2002, 1/8/2003, and 5/13/2003. The documents listed in those Information Disclosure Statements were supplied to the Office in the parent application No. 09/858,190. The Examiner is asked to sign and return the Information Disclosure Statements.

**This request was also made in the Reply mailed September 14, 2006**

### **CONCLUSION**

It is believed that this application is now in condition for allowance, and applicant respectfully requests that a timely Notice of Allowance be issued in this case. If, however, there are any outstanding issues that could usefully be discussed by telephone, the Examiner is asked to call the undersigned.

Respectfully submitted

  
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